

In The Claims:

Amend Claims 4, 5, 7, 9, 11, 13-16, 18 and 19 as follows.

1. A method of determining susceptibility to heart disease in a subject, said method comprising analysing genetic material of a subject to determine which of the B/b, A/a or T/t alleles of the *BsmI*, *Apal* or *TaqI* sites of the vitamin D receptor gene is/are present, wherein the b, a or T allele(s) are associated with risk of heart disease.

2. A method of determining susceptibility to heart disease according to claim 1, said method comprising analysing the genetic material of a subject to determine the haplotype of the *BsmI*, *Apal* or *TaqI* alleles of the vitamin D receptor.

3. A method according to claim 2 wherein the haplotype may be determined by amplification of a relevant portion of the vitamin D receptor gene, followed by restriction enzyme digestion.

4. (Amended) A method of determining susceptibility to heart disease according to Claim 1, 2 or 3, said method comprising determining the copy number of the B/b, A/a or T/t alleles or haplotype of the vitamin D receptor.

5. (Amended) A method according to Claim 1 further comprising determining whether the allele(s) present is/are associated with risk of heart disease.

6. A method according to claim 5 comprising comparing the allele(s) present in the genetic material of the subject with those known to be associated allele(s) of vitamin D receptor genotypes having known ° of risk of heart disease.

7. (Amended) A method according to Claim 1 wherein said method further comprises determining aspects of calcium metabolism in a subject.

8. A method according to claim 7, wherein daily calcium intake of a subject is measured.

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS™  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100

9. (Amended) A method according to Claim 1, wherein said method is performed *in vitro*.

10. A method according to claim 9 wherein said method is performed on blood or tissue samples of a subject.

11. (Amended) A method according to Claim 1 wherein the subject is a mammal.

12. A method according to claim 11 wherein the subject is a human.

13. (Amended) A method according to Claim 11 or Claim 12 wherein the subject is male.

14. (Amended) A method according to Claim 1 for determining susceptibility of a subject to atrial or ventricular hypertrophy, aortic calcification, myocardial infarction, or hypertension.

15. (Amended) A method according to Claim 1 further comprising treating the subject to reduce the risk of heart disease.

16. (Amended) A method according to claim 15 wherein said treatment is selected from the group of treatments consisting of modifications to lifestyle, regular exercise, changes in diet and pharmaceutical preparations.

17. A method of predicting the response of a subject to treatment, said method comprising analysing genetic material of a subject to determine which of the B/b, A/a or T/t allele(s) of the vitamin D receptor gene is/are present, in order to determine the underlying cause of the heart disease.

18. (Amended) A method according to claim 17 wherein said subject is first diagnosed as being susceptible to heart disease in accordance with Claim 1.

19. (Amended) A method according to Claims 17 or 18 further comprising administering the appropriate treatment to the subject.

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>PLLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100

20. Use of a kit to determine susceptibility to heart disease in a subject, said kit comprising (i) one or more nucleic acid primer molecules for amplification of a portion of the vitamin D receptor gene, and (ii) means for determining which allele(s) of said gene is/are present.

21. A kit for determining susceptibility to heart disease in a subject, said kit comprising (i) one or more nucleic acid primer molecules for amplification of a portion of the vitamin D receptor gene; (ii) means for determining which allele(s) of said gene is/are present; and (iii) means for indicating correlation between said allele(s) and risk of heart disease.

22. A kit according to claim 21, said kit comprising DNA control samples, for comparison with DNA sequences of a subject.

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>PLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100